

**UNITED STATES DEPARTMENT OF AGRICULTURE  
NATURAL RESOURCES CONSERVATION SERVICE**

**CONSERVATION PRACTICE STANDARD**

**INTERIM STANDARD  
SILVOPASTURE ESTABLISHMENT  
(Acres)**

**CODE 791**

**DEFINITION**

To establish a combination of trees and compatible, permanent forages.

**PURPOSES**

- To provide forage for livestock in combination with production of forest products
- To increase carbon sequestration
- To combine profitability and improved cash flow in one system
- To enhance nutrient uptake
- To improve water quality
- To reduce erosion
- To enhance wildlife habitat

**CONDITIONS WHERE PRACTICE APPLIES**

This practice may be applied on any area that is suitable for the desired plants.

**CRITERIA**

Selected tree and forage species should be adapted to the site. Trees that have been used in successful silvopasture establishment in the Southeast include Longleaf pine, Slash pine, and Loblolly pine. Forages that have been used in successful silvopastures in the Southeast include Bahiagrass, Tall fescue, and Bermudagrass. Other grasses, forbs, and tree species may be used which are adapted to the site and have desirable growth habit that will provide the type of forage needed and desirable forest products.

Situations where silvopasture establishment applies includes: 1) Existing pasture where trees can be added to enhance the land use system; 2) Existing forest where forage establishment will enhance the land use system; 3) Land on which neither the desired trees nor forages exist in sufficient quantity to meet the land user's objectives.

**SITE PREPERATION**

For existing pasture where trees will be added, site preparation should be based on existing vegetation and soil conditions. See Forest Site Preparation Standard 490.

For existing forests where forage will be established, site preparation should include: 1) Removing sufficient number of trees to allow adequate light penetration for forage crops. 2) Disking. If stumps interfere with equipment operation they should be allowed to decay before attempting to establish perennial forage crops. 3) Prescribed burning (pine only).

**TREE PLANTING**

Trees will be planted mechanically or by hand. See Tree/Shrub Establishment Standard 612 for planting criteria.

Row arrangement should be single or double row configuration. Recommended spacing for silvopasture are shown in the following table.

# SILVOPASTURE – TREES PER ACRE

<i>SINGLE-ROW SET</i>					<i>DOUBLE-ROW SET</i>							
<i>ALLEY</i>		tree to tree			tree to tree							
<i>WIDTH</i>		in row			in row							
		spacing			spacing			<i>ROW</i>	<i>SPACING</i>			
<b>15 FT</b>						6ft		8ft		10ft		12ft
		8ft	363		8ft							
		10ft	290		10ft			378		348		322
<b>20 FT</b>		6ft	363									
		8ft	272		8ft			388		363		340
		10ft	218		10ft	335		311		290		272
<b>30 FT</b>		6ft	242		6ft			382		363		345
		8ft	182		8ft	303		287		272		258
		10ft	145		10ft	242		229		218		207
<b>40 FT</b>		6ft	182		6ft	315		303		290		279
		8ft	136		8ft	237		227		218		209
		10ft	109		10ft	189		182		174		167

\*Field shape and planting design may cause some variation in trees per acre.

## **FORAGE ESTABLISHMENT FOR SILVOPASTURE**

Establishment of forage species will be in accordance with Pasture and Hayland Planting Standard 512 or Range Planting Standard 550.

## **ADDITIONAL CRITERIA FOR ENHANCING WILDLIFE HABITAT**

Utilize forage specie that will provide forage, browse, seed, cover, or nesting habitat for the wildlife species of concern.

## **CONSIDERATIONS**

Alternative use of forage crops (hay, silage, etc.) is desirable until average height of the terminal bud exceeds the browsing height of livestock. When grazed, a prescribed grazing plan must be followed (See NRCS Prescribed Grazing Standard 528). Failure to do this may result in excessive tree loss!

Location and distribution of facilities for water, minerals, or supplemental feed should be such that livestock are not encouraged to overutilize areas of silvopasture.

When using pesticides to facilitate establishment of trees or forage crops, follow label recommendations and NRCS Pest Management Standard 685.

## **PLANS AND SPECIFICATIONS**

Specifications for applying this practice shall be prepared for each site and recorded using approved specification sheets, job sheets, narrative statements in the conservation plan or other acceptable documentation.

## **OPERATION AND MAINTENANCE**

Replanting will be required when tree survival rate is less than 75%. Competing vegetation will be controlled until the trees are established. Nutrient management: Application of nutrients may be required for forage establishment. Refer to Nutrient Management Standard 590.

## **REFERENCES**

Dr. Terry Clason, Louisiana State University  
The Agroforestry Center